SABO MATSUMOTO OFFICE

Courtesy of the Natural Parks Foundation

SABO in Kamikochi

What is "SABO"?

Hokuriku Regional Development Bureau,
Ministry of Land, Infrastructure, Transport and Tourism

Matsumoto SABO Office

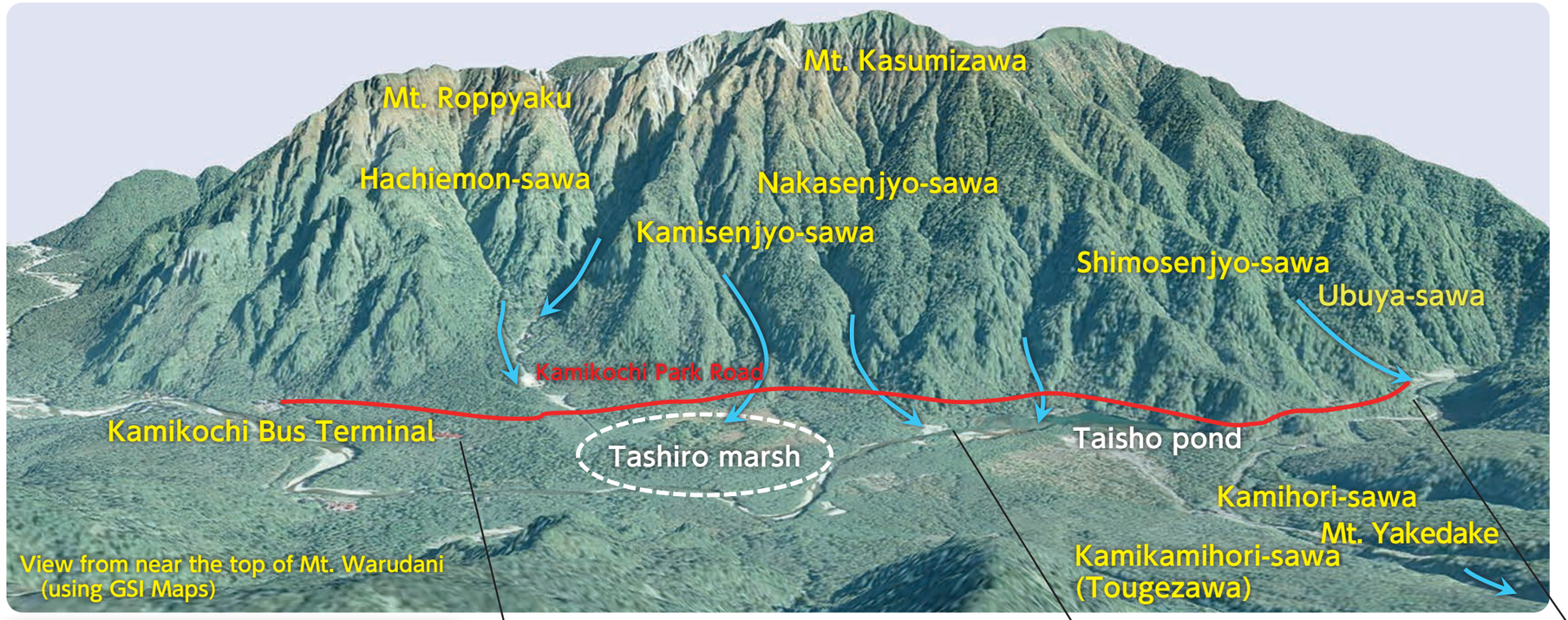
中部山岳国立公園
Chubusangaku National Park

Kamikochi Live Camera

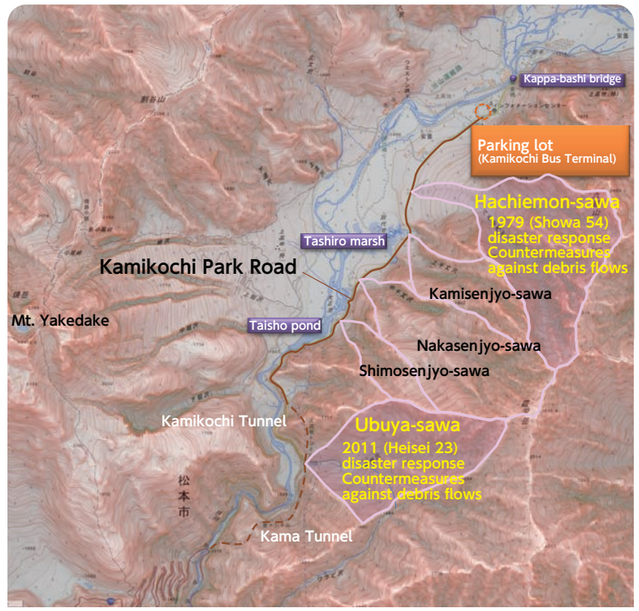
Kamagafuchi sabo dam | Mt. Yakedake (East) | Kappa-bashi bridge | Myojin bridge

The debris flow is an important part of nature. Kamikochi, where sediment disasters can often occur.

Most of the approximately 1.2 million tourists who visit Kamikochi each year do so by bus or cab using the Kamikochi Park Road. The Kamikochi Park Road that passes through the Kama Tunnel has a stream channel where debris flows* may occur. In the past, roads and trails have been damaged, and tourists and climbers have been isolated. Therefore, sabo works are being implemented to ensure the safety of the Kamikochi region.



View from near the top of Mt. Warudani (using GSI Maps)



The five streams flowing from Mt. Kasumizawa are particularly steep, and there is concern about possible damage to the Kamikochi Park Road due to debris flows every time it rains. Among them, sabo works have been conducted in Hachiemon-sawa since 1979 (Showa 54).

What is “debris flow”?

A debris flow occurs when heavy rains or earthquakes cause rocks and sediment in mountains and valleys to mix with large amounts of water and driftwood , and flow put all at once

Kamikochi SABO Quiz Part1

The Azusa River through Kamikochi,
which ocean does it flow out to?
A. Pacific Ocean B. Sea of Japan C. Osaka bay

Answers to the quiz are on the back cover

Sediment inflow to the Kamikochi Imperial Hotel

Cut-off of Kamikochi Park Road

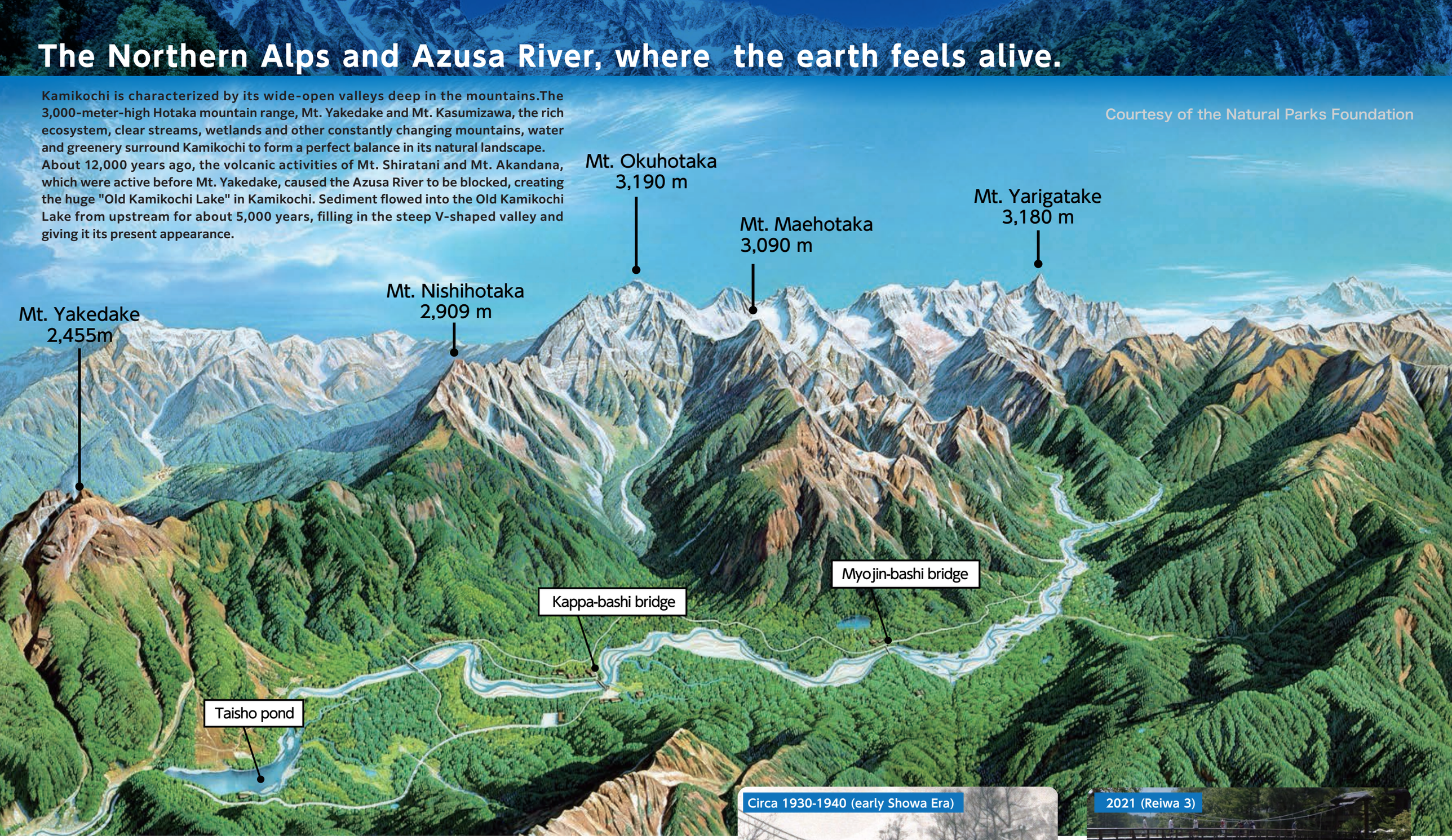
In 1979, a debris flow occurred in Nakasenjyo-sawa, along with Hachiemon-sawa. In addition, heavy rainfall in August 2019 (Reiwa 1) caused a sediment outflow.

In Ubuya-sawa, a debris flow occurred due to heavy rainfall in June 2011 (Heisei 23). The road was cut off and 860 people, including tourists, were isolated.

The Northern Alps and Azusa River, where the earth feels alive.

Kamikochi is characterized by its wide-open valleys deep in the mountains.The 3,000-meter-high Hotaka mountain range, Mt. Yakedake and Mt. Kasumizawa, the rich ecosystem, clear streams, wetlands and other constantly changing mountains, water and greenery surround Kamikochi to form a perfect balance in its natural landscape. About 12,000 years ago, the volcanic activities of Mt. Shiratani and Mt. Akandana, which were active before Mt. Yakedake, caused the Azusa River to be blocked, creating the huge "Old Kamikochi Lake" in Kamikochi. Sediment flowed into the Old Kamikochi Lake from upstream for about 5,000 years, filling in the steep V-shaped valley and giving it its present appearance.

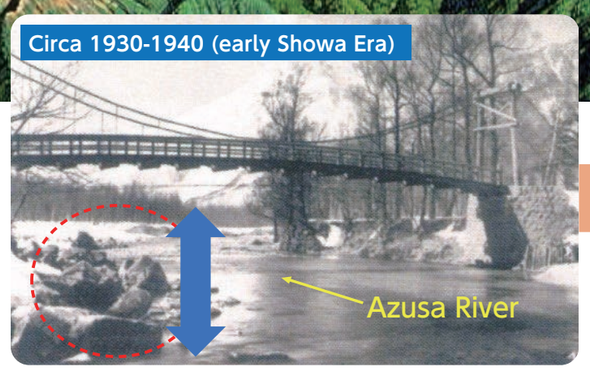
Courtesy of the Natural Parks Foundation

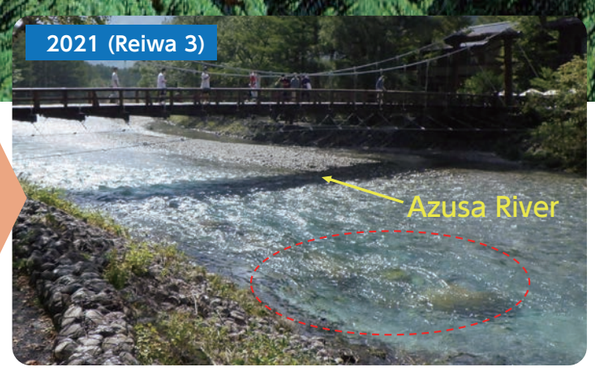


Kamikochi SABO Quiz Part2

Mt. Okuhotaka can be climbed from Kamikochi. What does it rank among the highest mountains in Japan?
A. 1st B. 2nd C. 3rd

The Azusa River receives a permanent inflow of sediment from the mountainous areas during heavy rainfall. As a result, the riverbed of the Azusa River (upstream from Taisho Pond) rose approximately 30 cm between 2003 and 2010.





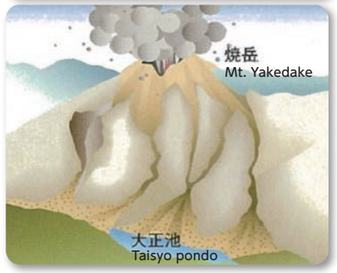
Mt. Yakedake, a volcano that remains active to this day.

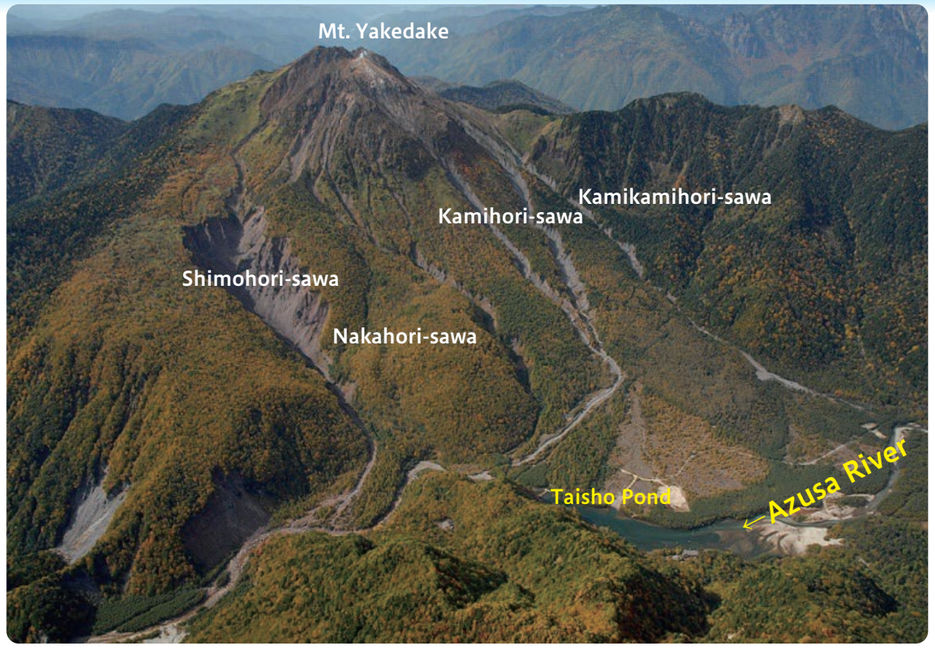
Taisho Pond, one of the landmarks of Kamikochi, was formed when the Azusa River was dammed up by the 1915 eruption of Mt. Yakedake. At that time, the eruption of Mt. Yakedake and subsequent flooding caused a large amount of sediment to flow downstream, affecting the Niigata port.
Due to the inflow of sediment from the upper reaches of the Azusa River and its tributaries originating from Mt. Yakedake, the pond area was reduced to a quarter of its original size in 2000 (Heisei 12) compared to 1915 (Taisho 4).

Mt. Yakedake eruption on June 6, 1915 (Taisho 4)

Before the eruption

After the eruption





2019 (Reiwa 1)

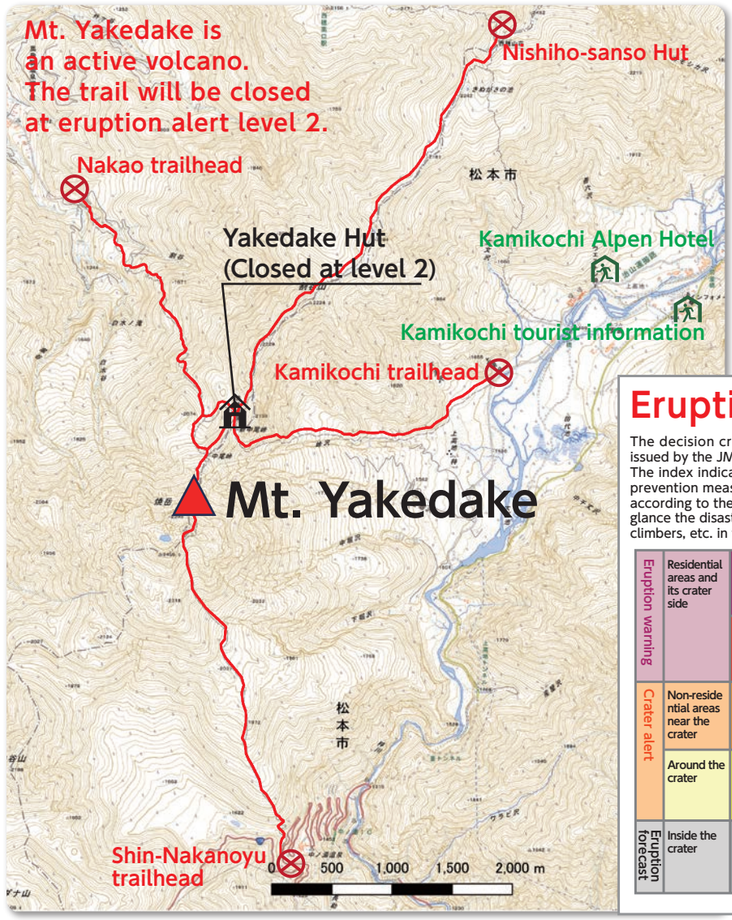
2021 (Reiwa 3)

Kamikochi Park Road buried by debris flow after ash fall on July 12, 1962 (Showa 37)

Fumarole near the summit of Mt. Yakedake

Kamikochi SABO Quiz Part3

How many active volcanoes have their summits in Nagano Prefecture?
A. 4 B. 5 C. 6



hazard map

Trails closed at Level 2

Designated shelter

Eruption warning level

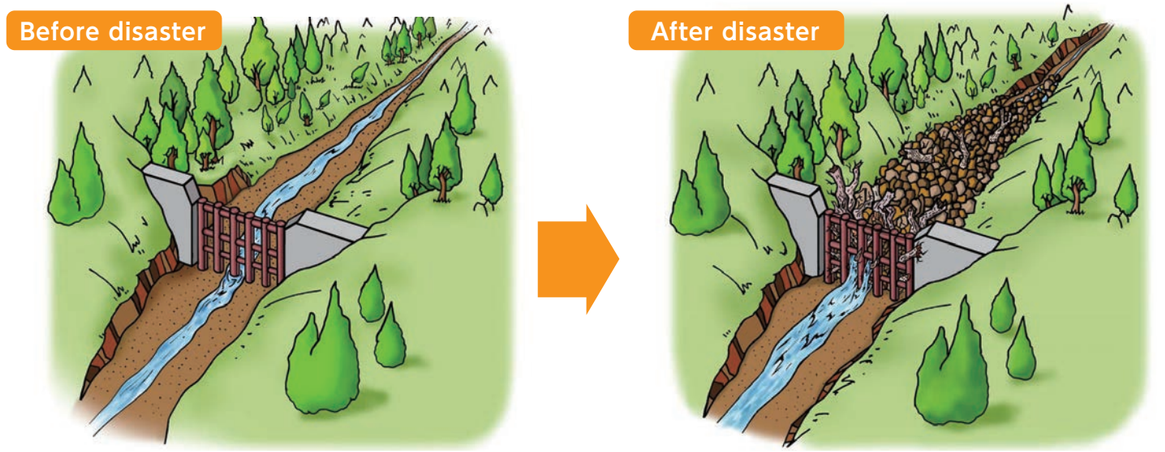
The decision criteria for evacuation are based on the "Eruption Alert Levels" issued by the JMA.
The index indicates the range of hazards that may be affected and the disaster prevention measures that need to be taken. The levels are classified into 1 to 5 according to the status of volcanic activity, and keywords are set to identify at a glance the disaster prevention actions that should be taken by residents, tourists, climbers, etc. in the vicinity of the volcano.

Eruption warning	Residential areas and its crater side	Level 5 Evacuation	An eruption that will cause significant damage to the residential area has occurred or is imminent.
		Level 4 Preparation for evacuation	An eruption with significant damage to residential areas is expected to occur (likelihood is increasing).
Crater alert	Non-residential areas near the crater	Level 3 Entry restrictions	An eruption with significant impact (life-threatening if people enter this range) to near residential areas has occurred or is expected to occur.
	Around the crater	Level 2 Restrictions around the crater	An eruption with impact (life-threatening if people enter this range) affecting the area around the crater has occurred or is expected to occur.
Eruption forecast	Inside the crater	Level 1 Active volcano	Volcanic activity is quiet, but depending on the state of volcanic activity, volcanic ash ejections, etc. can be seen in the crater (life is in danger if people enter this area).

SABO for the safety of Kamikochi

What is the universal term, “SABO”?

SABO refers to the work of preventing debris flows caused by collapsed soil and stones in the upper reaches of rivers, in order to protect people's safety and livelihoods from disasters caused by sedimentation. SABO is a Japanese word, but it is now used all over the world.
Even in valleys that are normally free of water, heavy rains can cause “debris flow” of sediment, water, and driftwood in a short period of time, causing serious damage to pedestrians, vehicles, and roads. In Kamikochi, measures are taken with various methods that take into consideration the precious natural environment and beautiful scenery.



Ubuya-sawa stream preservation works

Kamagafuchi sabo dam

Kamikochi SABO Quiz Part4

Which of the follows is as tall as
the Kamagafuchi sabo dam?
A. Tokyo Tower(333 m)　B. Matsumoto castle(29.4 m)
C. Stage of Kiyomizu Temple(13 m)

Countermeasures against debris flows in Hachiemon-sawa

The Hachiemon-sawa No. 2 sedimentation works is 28 meters wide and 52 meters long and can store approximately 4,800 m³ of sediment. It is about the same size as the 50 meter pool used in the Olympics.
In the torrential rainfall of August 29, 2019 (Reiwa 1), about 1,000 m³ (equivalent to approximately 200 10-ton dump trucks) of sediment was stored to protect the Kamikochi park road from debris flows.

Various facilities are also combined to keep the Kamikochi safe.

Bottom drainage screen that separates sediment and water like a colander to slow down debris flows

“Driftwood trapping works", which traps sediment or driftwood and stops them in the middle of the flow.

To enjoy Kamikochi safely

■ To all who visit Kamikochi

Check the weather forecast and information in advance!

・Prepare umbrellas, rain wear, warm clothes, etc. according to weather conditions
・Check walking time, restroom locations, restaurant hours

Cell phone reception is only available in some areas.

・Cell phone reception is only available on some of the walking trails in Kamikochi.

Places available

Kappa-bashi bridge, Konashi daira, Kamikochi Bus Terminal, Weston relief
Tashiro Pond, Taisho Pond, Myojin, Tokusawa, Yokoo and surrounding areas

Plan according to the return bus

・Consider the time it takes to get back to the bus terminal!

Cautions!

Beware of bears

・Information on bear sightings can be found on the website.
https://www.kamikochi-vc.or.jp/know/bear-list.html

Unpredictable weather unique to the mountains

・Kamikochi is a mountainous area at an altitude of 1,500 meters. Weather conditions can change rapidly, so please pay close attention.

In case of heavy rain or earthquake

・When roads are closed, it may take some time to get out of Kamikochi.

If you encounter a disaster, please follow the instructions of the staff at the nearby lodge or information center.

■For trekkers and climbers from Kamikochi

Allocate plenty of time and plan your climb in advance

・Be sure to plan your climb with plenty of time to spare.
・Be sure to climb at a difficulty level appropriate to your skills.

Submit mountain climbing notification

・Submit the mountain climbing notification. You can submit it in the mailbox at the trailhead, or you can apply online to the deemed organization (YAMAP and Compass).。

Clothing and Footwear

・Be prepared with appropriate equipment such as crampons and ice axes, especially during the lingering snow.

For climbers to Mt. Yakedake

(more than 8 hours for a round trip to the summit)

Helmets must be worn.
Sudden phreatic eruptions may occur or cinders and volcanic bombs may fall without warning.

Confirm the evacuation site and the restricted area in advance in case of an eruption. (If a Level 2 or higher alert is issued, you cannot climb the mountain.)

Be aware of fumaroles (volcanic gases) and do not stay in fumarole zones.

In case of a volcanic eruption

The eruption blows many cinders near the crater, sometimes over a wide area, causing direct damage to human life and health.

●Immediately leave the crater and take shelter in a nearby lodge or behind rocks.
●Wear a helmet and goggles and cover your mouth with a mask or damp towel.

In case of an earthquake

On mountain slopes, falling rocks and unstable trails can lead to rockfall and slip-and-fall accidents.

●Stay low and do not move until the shaking stops.
●Move away from unstable rocks and move to an area with stable footing and no danger of falling rocks.

Sediment disasters and flooding of walking trails/campgrounds have frequently occurred. Please take caution during rainy or stormy weather.


Shimosiro-sawa and Okuroppyaku-sawa


Shimosenjyo-sawa


Near Kappa-bashi bridge


Walking trails (between Kappa-bashi bridge and Myojin)

Konashi daira Camp Ground

■Information on disasters for foreign travelers is also available.

JNTO
(Japan National Tourism Organization)

NHK-WORLD JAPAN

Japan Visitor Hotline(JNTO Call Center)
TEL:050-3816-2787 【English, Chinese, Korean and Japanese】

App : Japan Official Travel App (Inactive: 2024-)

Kamagafuchi sabo dam

(Tangible Cultural Properties)

Kamagafuchi sabo dam was constructed in the valley of Azusa River called Kamagafuchi by the Minister of the Interior (now the Ministry of Land, Infrastructure, Transport and Tourism) in the early Showa Era.

The sabo dam is arched in shape, the interior is constructed of concrete with boulders embedded in it and the surface is masonry.

"Tangible Cultural Properties" is a system for preserving valuable structures that were built more than 50 years ago.

←SABO Cards are available at the Kamikochi Information Center.

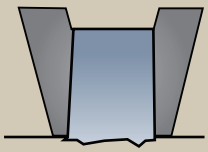
Purpose of construction:

- Storing large amounts of sediment discharged from Mt. Yakedake
- Preventing sediment from flowing downstream
- Fixing the footing of landslide site
- Preventing streambank erosion

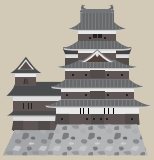
Data

- Construction started: June 8, 1936 (Showa 11)
- Construction complete: July 2, 1943 (Showa 18)
- Type: Arch type
- Height: 29.0 m (about the same as Matsumoto Castle)
- Length: 79.0 m

Kamagafuchi sabo dam 29.0 m



Matsumoto castle 29.4 m



Reason for registration as Tangible Cultural Properties

- Contribution to the historical landscape of the country
- Masonry patterns and arched shapes
- Harmony with the surrounding landscape
- Exemplars of modeling
- It is an early arch-type sabo dam and the most advanced technology of its time.

Masonry work

Answers to the SABO quiz

No.1 B. Sea of Japan
No.2 C. 3rd (1st Mt. Fuji, 2nd Mt. Kitadake, 3rd Mt. Okuhotaka/Mt. Ainodake)
No.3 C. 6 (Mt. Yakedake, Mt. Norikura, Mt. Akandana, Mt. Ontake, Mt. Yokodake, Mt. Asama)
No.4 B. Matsumoto Castle (29.4 m)

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